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**Ray JACKENDOFF, *Language, Consciousness, Culture. Essays on Mental Structure***

The MIT Press, 2007, 403 pages

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## REFERENCES

Ray Jackendoff

*Language, Consciousness, Culture. Essays on Mental Structure*. The MIT Press, A Bradford Book, Cambridge, Mass. and London, 2007. ISBN : 978-0-262-10119-6, Prix : 63.88 €, 403 pages

- 1 Ray Jackendoff, Professor of Philosophy and co-director of the Center for Cognitive Studies at Tufts University (and previously Professor of Linguistics at Brandeis University), is one of the most important and original contemporary American linguists. His major publications include the seminal work on interpretative semantics in generative grammar (Jackendoff 1972), a series of books on conceptual semantics, cognition and consciousness (Jackendoff 1983, 1987, 1990), overall studies of the language faculty (Jackendoff 1994, 1997, 2002), studies on phrase structure and syntax (Jackendoff 1977, Culicover and Jackendoff 2005), and a generative approach to tonal music (Lerdahl and Jackendoff 1983). In 2003 he was invited to deliver the Jean Nicod Lectures on Cognitive Philosophy. Part I of the book under review here is an augmented version of the Jean Nicod Lectures, and the “overarching topic of the book is an exploration of the mental structures involved in a variety of cognitive domains: language, consciousness, complex action, theory of mind, and social/cultural cognition” (p. xvii). Part II investigates relations between Conceptual Semantics and the social domain. This recent book, though not directly concerned with lexicology, deserves close attention not only from researchers in various subfields of linguistics (especially semantics), but also those

working in fields such as the evolution of language, anthropology, child development, and primatology.

- 2 **Part I** comprises five chapters devoted to mental structure, an integrated approach to generative grammar, conscious and unconscious aspects of language structure, the structure of complex actions, and cognition of society and culture. Part II is composed of seven chapters discussing issues relating to various aspects of the structure of social cognition and theory of mind.
- 3 **Chapter 1** investigates the formal properties of mental structure and the relations between mental structure and brain structure, and opens with the following statement: “This book is concerned with exploring human nature in terms of the mental structures that play a role in constituting human experience and human behavior” (p. 3). Jackendoff provides his understanding of the terms *brain*, understood, rather conventionally, as the physical body part which accomplishes cognition (p. 3) and *mind*, understood, far less conventionally, as “the brain seen from the point of view of its functional or computational aspect” (p. 3). He also lists different ways, or ‘dimensions’, of studying the notions of mind/brain. In the conclusion to this chapter he stresses the fact that the discussion at this point is strictly programmatic, and later chapters return to these issues in the broad context of other cognitive phenomena. One of such issues is the integrated approach to linguistic structure, the ‘parallel architecture’, discussed in more detail in Chapter 2.
- 4 **Chapter 2** aims at reintegrating generative grammar and it discusses the foundations and failures of the generative paradigm. The organization of language advocated by Jackendoff includes three autonomous levels of structure: phonological, syntactic and semantic/conceptual, linked by interface components, together constituting ‘The (Tripartite) Parallel Architecture’. These language specific components interface with non-linguistic components, such as vision, action, auditory factors, etc. Each of the autonomous levels of structure is described by a set of formation rules which generate the well-formed structures of the level. Jackendoff demonstrates how this approach fits into theories of language processing, overall brain organization, and the evolution of the language faculty.
- 5 **Chapter 3** moves beyond language capacity and the author investigates the relation of language and consciousness, and restates his ‘Intermediate-Level Hypothesis’ (first introduced in Jackendoff 1987). In seeking functional correlates of consciousness he formulates five hypotheses:
  - Hypothesis 1. When one is experiencing language, the forms in awareness – the qualia – most closely mirror phonological structure. (p. 81)
  - Hypothesis 2. We are aware of the content of our linguistically expressed thoughts only by virtue of experiencing phonological images associated with them, plus other images that are inferentially nonefficacious. (p. 83)
  - Hypothesis 3. The form of thought itself is always unconscious. (p. 83)
  - Hypothesis 4. Our linguistic images provide most of our evidence testifying to the fact that we are thinking. (p. 84)
  - Hypothesis 5. Being able to exploit phonological structure enhances the power of thought. (p. 105)
 Acceptance of the above hypotheses permits Jackendoff to fruitfully scrutinize the relation between the evolution of language and the evolution of human thought.

- 6 An important dimension of consciousness is valuation, described by Jackendoff in terms of the following binary features: 'external', 'self-initiated', 'familiar', 'affective' (with further bifurcation of valence), and 'meaningful'. Furthermore, propositional attitudes are characterized as [ $\pm$ committed]. These abstract features are associated with the structure of the percept or image, and show how the binary feature mechanism, devised primarily for phonology, can be profitably employed in analyzing consciousness and cognition. But "cognition is not an end in itself" (p. 111), and therefore **Chapter 4** investigates the structure of complex actions.
- 7 The actions chosen by the author (shaking hands, making coffee) may seem banal at first. However both these acts reveal several salient features of actions, such as structure in separate cognitive domains, and complexity of the sub-actions. The respective diagrams show clear parallels to lexical and phrasal structure in language. An interesting early discussion of bar structures outside language was provided by David Gil, who developed some of the ideas put forward by Jackendoff (1977) and Lerdahl and Jackendoff (1983), and observed that "bar structures occur in a wide variety of non-verbal cognitive domains" such as, for example "going fishing, climbing a mountain, having sex, writing a paper" (Gil 1985: 169-170). He also observed, very much in line with Jackendoff's present stance, that "bar structure, it would seem, is one of the most commonly exploited structure types in our cognitive repertoire" (Gil 1985: 171). In the conclusion to Chapter 4, Jackendoff remarks that on the one hand the recursive capacity of language is not as unique as is often claimed, whereas on the other hand "language is a special system because of what it does and the particular structural materials it uses to do it" (p. 143).
- 8 **Chapter 5** provides a lengthy analysis of social cognition viewed as a cognitive capacity. Jackendoff offers a systematic discussion of parallels between language and social cognition, pointing to such issues as the unlimited number of understandable sentences or social situations, the requirement of combinatorial rule systems in the mind of the language user or social participant, the unavailability of rule systems to consciousness, etc. Further on in this chapter he mentions some objections from the social sciences, stresses the role for linguistics in studying social cognition, investigates affiliations (kinship, alliances, dominance), cooperation and competition, rules and other normative principles, and even morality and politics.
- 9 **Part II** investigates in more detail several concepts involved in the theory of mind and social cognition. Consequently, **Chapter 6** deals with perception verbs (such as look and see), with different implications for a theory of mind, whereas **Chapter 7** focuses on psychological and evaluative predicates (such as fear, interesting, bored), and issues of objectivity and subjectivity. In order to discuss these cases, a considerable part of Chapter 6 is devoted to an overview of Conceptual Structure (CS), an issue strictly related to Jackendoff's concept of 'Parallel Architecture', introduced in Chapter 2. The level of CS is "a level of mental structure that is largely autonomous of language and epistemologically prior to it" (p. 193). Jackendoff also summarizes the differences between his approach and those of Chomsky, Fodor, in formal semantics and cognitive grammar. The analysis of affective and evaluative psychological predicates in Chapter 7 integrates CS with systems of subjective and objective evaluation. Whereas this chapter might be treated as a self-contained study on psychological predicates and their semantics, Chapter 8 discusses intending and volitional action, and Jackendoff demonstrates here that a typically philosophical approach, in terms of propositional attitudes, is insufficient "in order to

understand how people reason about the minds of others” (p. 243), and he offers a formalized approach towards situational and actional attitudes.

- 10 **Chapter 9** investigates values, where values “are not anything independently of the people who conceptualize them” (p. 277). This chapter offers a careful analysis of different kinds of value, such as affective value, resource value, normative value, utility, quality, prowess, esteem. Also this analysis relates the system of values to a more general semantic, or cognitive background, and Jackendoff demonstrates how types of value are applied to ontological types, and how they are manifest in the subjective and objective versions. For example, the value described as ‘esteem’ applies to the ontological type ‘persons’, and in the subjective version is manifest as ‘X respects Y’, whereas in the objective version it is manifest as ‘Y is prestigious’. It would certainly be interesting to see the approach advocated by Jackendoff combined with a more axiological analysis, in the tradition of Hartman (1967), and further developed, from the perspective of cognitive linguistics, in Krzeszowski (1997).
- 11 The logic of value presented in Chapter 9 is applied in **Chapter 10** to a conceptual account of fairness and reciprocation. Such a conceptual account underlines the distinction between reciprocation, which includes reciprocal altruism, and exchange, a joint undertaking. **Chapter 11** follows with a discussion of rights and obligations. The analyses in these chapters very neatly link the linguistic, conceptual and cognitive levels, and show the benefits of such a complex investigation into a wide variety of social rules and principles.
- 12 The last chapter briefly discusses methodology in studying social cognition and the theory of mind, and speculates about innate and human-specific components of social cognition. Jackendoff once again stresses his conviction that “language and social cognition are deeply intertwined” (p. 368).
- 13 Throughout his work Jackendoff has very often criticized the ‘syntactocentrism’ of mainstream generative grammar, cf. earlier arguments in Jackendoff (1997: 15-19; 2002: 107-111). In the book being reviewed here it is considered one of the ‘scientific mistakes’ (p. 35) within the generative paradigm (the other being the lexicon/grammar distinction). It would be tempting to dub his recent proposals as criticism of ‘linguacentrism’ within contemporary cognitive studies; this, though, would be both unfair and untrue. Rather, Jackendoff reaches beyond language and linguistic analysis. Nevertheless, he seeks inspiration by studying social and cultural cognition in deeply thought-out linguistic analyses, undoubtedly influenced by the generative paradigm. His approach, however, is highly original, and in several important respects radically departs from more canonical generative studies, such as those of Chomsky (1986, 1995).
- 14 In the conclusion to his – in the main rather critical – review of Jackendoff’s book, George Lakoff, another prominent figure on the American linguistics scene, has remarked: “I wish that other linguists, both generative and cognitive, had his scope and intellectual ambition” (Lakoff 2008: 74). Indeed, Jackendoff’s most recent book provides stimulating reading and certainly opens up interesting avenues still to be explored, both within linguistics itself and in cognitive science in general.

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